

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please amend Claims 1, 4, 21, 27, 52, and 53, and add new Claims 54-58 as follows:

4 1. (Currently Amended) A medical simulator for training ultrasound operators to perform  
5 ~~craniosynostosis~~ craniosynostosis screenings using medical ultrasound, comprising a substantially life  
6 size model of a human head, said model being at least in part fabricated from a first material, said  
7 model including at least one simulated patent skull suture being at least in part fabricated from a  
8 second material, said second material comprising at least one of a solid and a semi-solid, an  
9 echogenicity of said second material being substantially different than an echogenicity of said first  
10 material, such that each simulated patent skull suture can be readily distinguished in an ultrasound  
11 image of said model.

12 2. (Previously Presented) The medical simulator of Claim 1, wherein each simulated patent  
13 skull suture comprises an opening formed in said first material, such that the second material at least  
14 partially fills the opening.

15 3. (Cancelled)

16 4. (Currently Amended) The medical simulator of Claim 1, wherein the second material is  
17 hypoechoic relative to the first material.

18 5. (Previously Presented) The medical simulator of Claim 1, wherein the echogenicity of the  
19 second material is lower than the echogenicity of the first material, such that in an ultrasound image  
20 of the model, portions of the model corresponding to the first material appear relatively bright and  
21 portions of the model corresponding to the second material appear relatively dark.

22 6. (Previously Presented) The medical simulator of Claim 1, wherein the model includes a  
23 scalp portion in which each simulated skull suture is disposed, such that the scalp portion of the  
24 model is covered with a layer of the second material, the second material extending beyond the  
25 opening in the first material and covering at least a portion of the first material, to prevent the  
26 simulated patent skull suture from being identified tactilely.

27 7. (Previously Presented) The medical simulator of Claim 1, wherein the second material  
28 comprises a mixture of a starch and a glue.

29 8. (Original) The medical simulator of Claim 7, wherein the glue is a casein-based glue.

30 ///

1           9. (Original) The medical simulator of Claim 7, wherein the glue is a synthetic resin-based  
2 glue.

3           10. (Original) The medical simulator of Claim 2, wherein at least one simulated patent skull  
4 suture corresponds to at least one of a simulated patent coronal skull suture and a simulated patent  
5 lambdoid skull suture, and wherein each opening corresponding to a simulated patent coronal skull  
6 suture is beveled, and each opening corresponding to a simulated patent lambdoid skull suture is  
7 beveled.

8           11. (Original) The medical simulator of Claim 2, wherein at least one opening corresponding  
9 to a simulated patent skull suture corresponds to at least one of a simulated patent sagittal skull suture  
10 and a simulated patent metopic skull suture, so that opposed walls of each opening corresponding to a  
11 simulated patent sagittal skull suture exhibit an end-to-end configuration, and opposed walls of each  
12 opening corresponding to a simulated patent metopic skull suture exhibit an end-to-end configuration.

13           12. (Previously Presented) The medical simulator of Claim 1, further comprising at least one  
14 simulated fused skull suture.

15           13. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture  
16 comprises said first material.

17           14. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture  
18 comprises an opening formed in said first material, each opening corresponding to a simulated fused skull  
19 structure being filled with a third material, an echogenicity of the third material being substantially  
20 distinguishable from the echogenicity of the second material, so that each opening corresponding to a  
21 simulated fused skull suture can be readily distinguished from an opening corresponding to a simulated  
22 patent skull suture in an ultrasound image of said model.

23           15. (Original) The medical simulator of Claim 14, wherein the echogenicity of the third  
24 material is substantially similar to the echogenicity of the first material, such that in an ultrasound  
25 image of the model, portions of the model comprising the first material are not readily distinguishable  
26 from portions of the model comprising the third material.

27           16. (Original) The medical simulator of Claim 14, wherein the third material comprises a  
28 synthetic elastomer.

29           17. (Original) The medical simulator of Claim 16, wherein the synthetic elastomer comprises  
30 dimethyl siloxane, hydroxy-terminated polymers, and silica.

1           18. (Original) The medical simulator of Claim 12, further comprising an opaque layer  
2 configured to cover each simulated patent skull suture and each simulated fused skull suture, so that a  
3 trainee cannot readily visually determine whether a specific skull suture is patent or fused by visually  
4 inspecting the model.

5           19. (Original) The medical simulator of Claim 1, further comprising an opaque layer  
6 configured to cover a scalp portion of the model, so that a trainee cannot readily visually locate each  
7 simulated patent skull suture by visually inspecting the model.

8           20. (Original) The medical simulator of Claim 1, wherein a doll's head is utilized for the  
9 substantially life size model of a human head.

10          21. (Currently Amended) A medical simulator adapted to be used to train ultrasound  
11 operators to perform ~~craniosynotosis~~ craniosynostosis screenings using medical ultrasound,  
12 comprising a substantially life size model of a human head, said model including at least one opening  
13 corresponding to a simulated patent skull suture, each such opening being filled with a solid or semi-  
14 solid hypoechoic material to enhance a difference in an echogenicity of the simulated skull suture  
15 relative to that of portions of the model not corresponding to the simulated patent skull suture, the  
16 difference enabling each simulated patent skull suture to be identified in an ultrasonic image.

17          22. (Previously Presented) The medical simulator of Claim 21, wherein when the medical  
18 simulator is imaged using ultrasound, the hypoechoic material produces a relatively dark image,  
19 whereas adjacent portions of the model produce a relatively bright image, such that each simulated  
20 patent skull suture appears in the ultrasound image as a relatively dark area surrounded by relatively  
21 brighter areas.

22          23. (Previously Presented) The medical simulator of Claim 21, wherein said model is  
23 fabricated from a first material, such that the solid hypoechoic material filling each opening  
24 corresponding to a simulated patent skull suture represents a second material, an echogenicity of the  
25 second material being substantially different than the echogenicity of the first material, so that each  
26 opening corresponding to a simulated patent skull suture can be readily distinguished from the first  
27 material in an ultrasound image of said model.

28 ///

29 ///

30 ///

1           24. (Previously Presented) The medical simulator of Claim 23, wherein the echogenicity of  
2 the second material is lower than the echogenicity of the first material, such that in an ultrasound  
3 image of the model, portions of the model comprising the first material will appear relatively bright,  
4 while portions of the model comprising the second material will appear relatively dark.

5           25. (Original) The medical simulator of Claim 23, further comprising at least one opening  
6 corresponding to a fused skull suture, each opening corresponding to a simulated fused skull suture  
7 being filled with a third material, an echogenicity of the third material being substantially different  
8 than the echogenicity of the second material, so that each opening corresponding to a simulated fused  
9 skull suture can be readily distinguished from an opening corresponding to a simulated patent skull  
10 suture in an ultrasound image of said model.

11           26. (Original) The medical simulator of Claim 21, wherein:

12                   (a) each opening corresponding to a simulated patent skull suture intended to  
13 represent a patent coronal skull suture is beveled;

14                   (b) each opening corresponding to a simulated patent skull suture intended to  
15 represent a patent lambdoid skull suture is beveled;

16                   (c) each opening corresponding to a simulated patent skull suture intended to  
17 represent a patent sagittal skull suture is formed such that opposed walls of the opening exhibit an  
18 end-to-end configuration; and

19                   (d) each opening corresponding to a simulated patent skull suture intended to  
20 represent a patent metopic skull suture is formed such that opposed walls of the opening exhibit an  
21 end-to-end configuration.

22           27. (Currently Amended) An ultrasound trainer configured to train ultrasound operators to  
23 perform ~~craniosynotosis~~ craniosynostosis screenings using medical ultrasound; comprising a  
24 substantially life size model of a human head, said model including at least one simulated patent skull  
25 suture and at least one simulated fused skull suture, an echogenicity of each simulated patent skull  
26 suture enabling the simulated patent skull suture to be readily distinguishable from each simulated  
27 fused skull suture in an ultrasound image of said model, such that each simulated patent skull suture  
28 will appear dark in such an ultrasound image, and each simulated fused skull suture will appear bright  
29 in such an ultrasound image.

30           Claims 28-51. (Canceled)

1           52. (Currently Amended) A medical simulator for training ultrasound operators to perform  
2 ~~craniosynotosis~~ craniosynostosis screenings using medical ultrasound, comprising a substantially life-  
3 size model of a human head, said model including two eyes, a mouth, two ears, and at least one  
4 simulated patent skull suture, an echogenicity of each simulated patent skull suture enabling the  
5 simulated patent skull suture to be readily distinguishable in an ultrasound image of said model.

6           53. (Currently Amended) A medical simulator for training ultrasound operators to perform  
7 ~~craniosynotosis~~ craniosynostosis screenings using medical ultrasound, comprising a substantially life  
8 size model of a human head, said model including at least one simulated patent skull suture, an  
9 echogenicity of each simulated patent skull suture enabling the simulated patent skull suture to be  
10 readily distinguishable in an ultrasound image of said model, such that each simulated patent skull  
11 suture will appear dark in such an ultrasound image, whereas adjacent portions of said model will  
12 appear bright in such an ultrasound image.

13           54. (New) A medical simulator for training ultrasound operators to perform craniosynostosis  
14 screenings using medical ultrasound, comprising a substantially life size model of a human head, said  
15 model being at least in part fabricated from a first material, said model including:

16                 (a)       at least one simulated patent skull suture being at least in part fabricated from a  
17 second material, said second material comprising at least one of a solid and a semi-solid, an  
18 echogenicity of said second material being substantially different than an echogenicity of said first  
19 material, such that each simulated patent skull suture can be readily distinguished in an ultrasound  
20 image of said model; and

21                 (b)       at least one simulated fused skull suture, wherein each simulated fused skull  
22 suture comprises an opening formed in said first material, each opening corresponding to a simulated  
23 fused skull structure being filled with a third material, an echogenicity of the third material being  
24 substantially distinguishable from the echogenicity of the second material, so that each opening  
25 corresponding to a simulated fused skull suture can be readily distinguished from an opening  
26 corresponding to a simulated patent skull suture in an ultrasound image of said model.

27           55. (New) The medical simulator of Claim 54, wherein the echogenicity of the third material  
28 is substantially similar to the echogenicity of the first material, such that in an ultrasound image of  
29 the model, portions of the model comprising the first material are not readily distinguishable from  
30 portions of the model comprising the third material.

1           56. (New) The medical simulator of Claim 54, wherein the third material comprises a  
2 synthetic elastomer.

3           57. (New) A medical simulator adapted to be used to train ultrasound operators to perform  
4 craniosynostosis screenings using medical ultrasound, comprising:

5               (a) a substantially life size model of a human head, said model including at least  
6 one opening corresponding to a simulated patent skull suture, each such opening being filled with a  
7 solid or semi-solid hypoechoic material to enhance a difference in an echogenicity of the simulated  
8 skull suture relative to that of portions of the model not corresponding to the simulated patent skull  
9 suture, the difference enabling each simulated patent skull suture to be identified in an ultrasonic  
10 image, said model being fabricated from a first material, such that the solid hypoechoic material  
11 filling each opening corresponding to a simulated patent skull suture represents a second material, an  
12 echogenicity of the second material being substantially different than the echogenicity of the first  
13 material, so that each opening corresponding to a simulated patent skull suture can be readily  
14 distinguished from the first material in an ultrasound image of said model; and

15               (b) at least one opening corresponding to a fused skull suture, each opening  
16 corresponding to a simulated fused skull suture being filled with a third material, an echogenicity of  
17 the third material being substantially different than the echogenicity of the second material, so that  
18 each opening corresponding to a simulated fused skull suture can be readily distinguished from an  
19 opening corresponding to a simulated patent skull suture in an ultrasound image of said model.

20           58. (New) A medical simulator adapted to be used to train ultrasound operators to perform  
21 craniosynostosis screenings using medical ultrasound, comprising a substantially life size model of an  
22 infant head, said model including at least one opening corresponding to a simulated patent skull  
23 suture, each such opening being filled with a solid or semi-solid hypoechoic material to enhance a  
24 difference in an echogenicity of the simulated skull suture relative to that of portions of the model not  
25 corresponding to the simulated patent skull suture, the difference enabling each simulated patent skull  
26 suture to be identified in an ultrasonic image.